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Salt River
Valley
Water Users
Association

Water Supply Outlook for Arizona

Federal-State-Private
Cooperative
Snow Surveys



APRIL 1, 1984

Issued by

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COVER PHOTO -
Spring is on the way



WATER SUPPLY OUTLOOK FOR ARIZONA
APRIL 1, 1984

SPRING RUNOFF IN ARIZONA WILL BE MUCH BELOW AVERAGE
RESULTING IN LIMITED WATER SUPPLIES IN MANY AREAS.

SURFACE WATER
SUPPLY

April-May streamflow forecasts call for much below average runoff on Arizona streams. Water supplies derived from direct stream diversion will be limited. Heavy reliance will be placed on reservoir storage where such is available. The Verde River is forecast to run 27% of average, the Salt River 24%, and Tonto Creek only 13% of average for this two-month period. The Gila River drainage will produce low runoff with the Gila running 36% at Virden, New Mexico and 32% at the Head of Safford Valley. The San Francisco River is forecast to run 36% of average at Clifton. Streamflow entering San Carlos Reservoir at Calva is forecast to be only 11% of average. Runoff on the Little Colorado River will be about 28% of average at Greer. Inflow to Lyman Reservoir is expected to be near 8% of average. Only 15% of average flow is anticipated on the Mimbres River in New Mexico.

SNOW COVER

The mountain snowpack continued to decline throughout March. Above average temperatures were common, causing melt, while only a few small storms deposited any snow. On April 1 the remaining snowpack was 10% of average on the Verde Watershed, 18% on the Salt River, 30% on the upper Little Colorado River, and 39% on the Gila-San Francisco drainage. Most snow remaining is above 8000 feet elevation.

PRECIPITATION

Major storms continued to pass to the north of Arizona. During most of March only the more northern areas of the state received much precipitation. The southern edge of some storm systems crossed central Arizona during the last week of the month, but precipitation remained below average.

STREAMFLOW

On streams where preliminary runoff data was available, the trend was for decreasing flow in March as compared to February. The one exception was the Salt River where runoff increased in response to the melting of the remaining snowpack. However, March runoff was still much below average.

Observed Streamflow - March 1984

<u>Stream</u>	<u>1000's Ac-Ft.</u>	<u>% of Average</u>
Salt River	48.7	39
Tonto Creek	2.1	6
Verde River	16.3	16
Gila River-Solomon	16.3	29
Gila River, Virden, NM	8.3	32
San Francisco River, Clifton	7.6	30

RESERVOIR
STORAGE

Water supply reservoirs report normal to above normal storage for April 1. A total of 1,699,000 acre feet was in storage in the six Salt River Project reservoirs on this date. This was 84% of capacity. San Carlos held 875,000 acre feet, 94% full. Lake Pleasant was at 79% of capacity with 125,000 acre feet. A total of 47,117,000 acre feet was stored in Lakes Powell, Mead, Mohave, and Havasu, which is 88% of capacity.

Streamflow forecasts are coordinated between Soil Conservation Service and National Weather Service. All averages are based on the 20-year period 1961-1980.

THIS WILL BE THE FINAL REPORT OF THE SEASON

ABOUT
STREAMFLOW FORECASTS APRIL 1, 1984

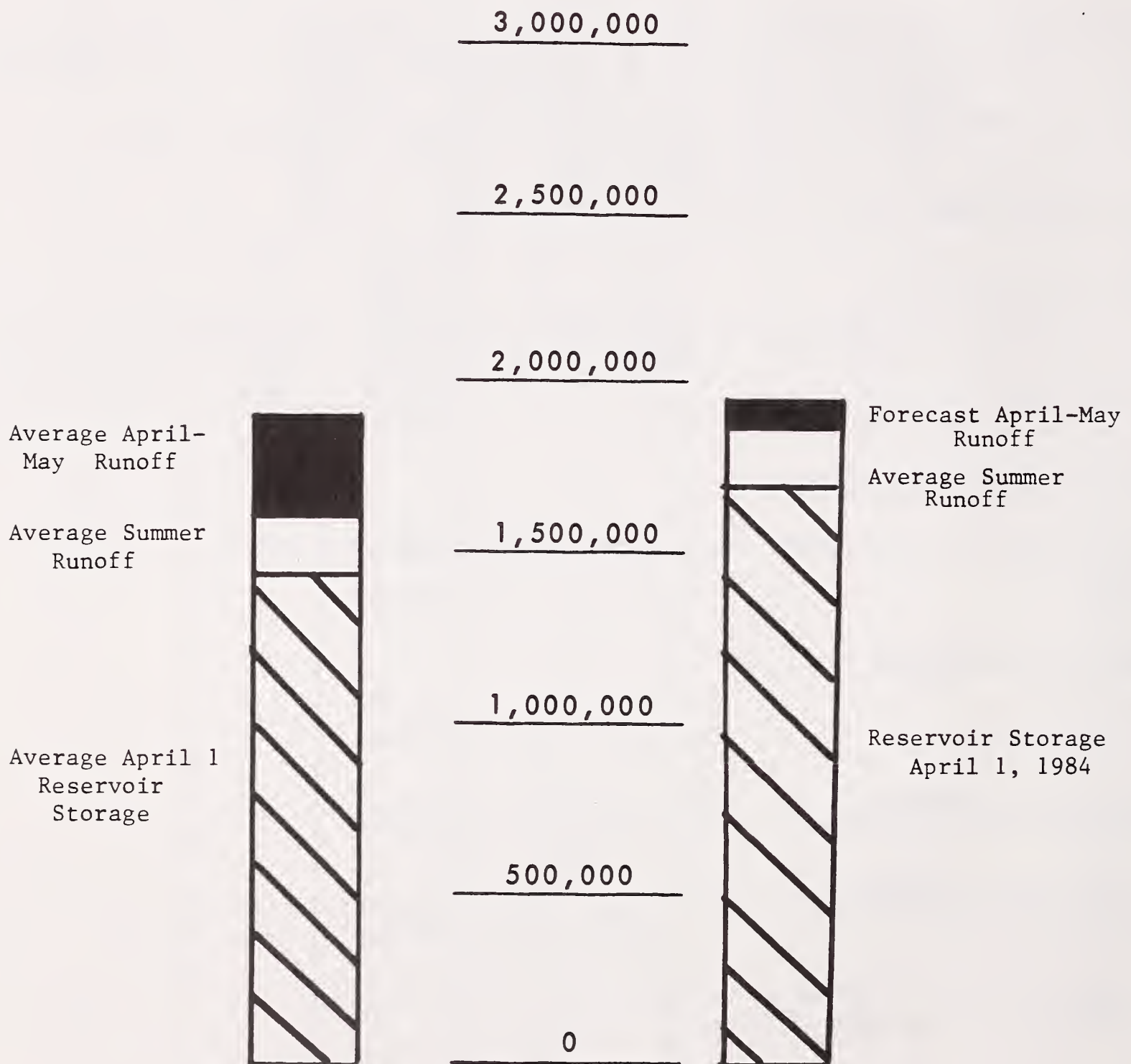
STREAMFLOW FORECASTS		APRIL 1, 1984		THIS YEAR		PAST RECORD	
BASIN, STREAM and/or FORECAST POINT		FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET		
		Thousand Acre Feet	Percent of Average		Last Year	Average †	
<u>SALT RIVER DRAINAGE</u>							
Salt near Roosevelt		50	24	Apr-May	451.0	204.1	
"		32	24	April	253.8	130.7	
Tonto Creek near Roosevelt		1.9	13	Apr-May	35.8	14.2	
"		1.2	11	April	25.8	11.2	
Verde River above Horseshoe		22	27	Apr-May	154.5	81.1	
"		12	18	April	124.0	65.6	
Total Salt River Project Streams		73.9	25	Apr-May	641.3	299.4	
"		45.2	22	April	403.6	207.5	
<u>GILA RIVER DRAINAGE</u>							
Gila River at Calva		4.2	11	Apr-May	189.7	37.4	
Gila River near Gila		9.0	38	Apr-May	59.3	23.7	
Gila River near Solomon		18	32	Apr-May	195.4	57.0	
"		12	32	April	128.2	37.3	
Gila River near Virden		10.0	36	Apr-May	80.4	27.5	
Frisco River at Clifton		9.0	36	Apr-May	96.2	31.0	
Frisco River near Glenwood		4.5	23	Apr-May	47.5	19.4	
<u>LITTLE COLORADO RIVER DRAINAGE</u>							
Little Colorado River above Lyman Dam		0.9	8	Apr-June	18.4	11.0	
Greer		2.0	28	Apr-June	--	7.0	
<u>GRANITE CREEK DRAINAGE</u>							
Granite Creek		0.1	--	Apr-May	---	---	
Willow Creek		0.1	--	Apr-May	---	---	
<u>MIMBRES RIVER DRAINAGE</u>							
Mimbres River near Mimbres		0.3	15	Apr-May	5.5	2.0	
<u>COLORADO RIVER DRAINAGE</u>							
Virgin River near Littlefield		58	95	Apr-June	252.5	61.5	
Lake Mary Inflow		0.1	--	Apr-May	---	---	
† Based on 20-year period, 1961-80							
* Average for less than 20 years							
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WATER SUPPLY INVENTORY SALT RIVER VALLEY SYSTEM

IN ACRE-FEET

AVERAGE WATER SUPPLY
APRIL 1

ANTICIPATED WATER SUPPLY
APRIL 1, 1984



Based on Present Storage + Forecast Spring Runoff + Average Summer Runoff

RESERVOIR STORAGE (Thousand Acre Feet) ABOUT APRIL 1, 1984

BASIN or STREAM	RESERVOIR	Usable Capacity	Usable Storage		
			This Year	Last Year	Average†
<u>GILA RIVER DRAINAGE</u>					
Agua Fria	Lake Pleasant	157.6	125.4	157.5	85.0
Granite	Watson Lake	4.7	3.9	4.7	3.6
Granite	Willow Creek	6.1	5.7	6.1	3.5
Gila	Painted Rock Dam	2,492.0	6.0	567.0	--
Gila	San Carlos	935.0	875.0	580.6	320.2
Salt (4)	Roosevelt, Apache, Canyon & Saguaro	1,709.0	1,479.0	1,652.4	1,283.0
Verde (2)	Bartlett & Horseshoe	309.6	220.0	297.3	162.9
Salt & Verde	6 Salt River Proj. Reservoirs	2,019.0	1,699.0	1,949.7	1,445.9
<u>COLORADO RIVER DRAINAGE</u>					
Colorado	Lake Havasu	619.4	547.0	567.5	558.0
Colorado	Lake Mohave	1,810	1,709.0	1,714	1,666
Colorado	Lake Mead	26,159	23,804	24,638	18,170
Colorado	Lake Powell	25,002	21,057	22,604	11,280
Little Colorado	Lyman	--	--	--	---
Little Colorado	Show Low Lake	5.1	3.6	5.1	----
† Based on 20-year average, 1961-80					
* Average is for less than 20 years of record					
-5-					

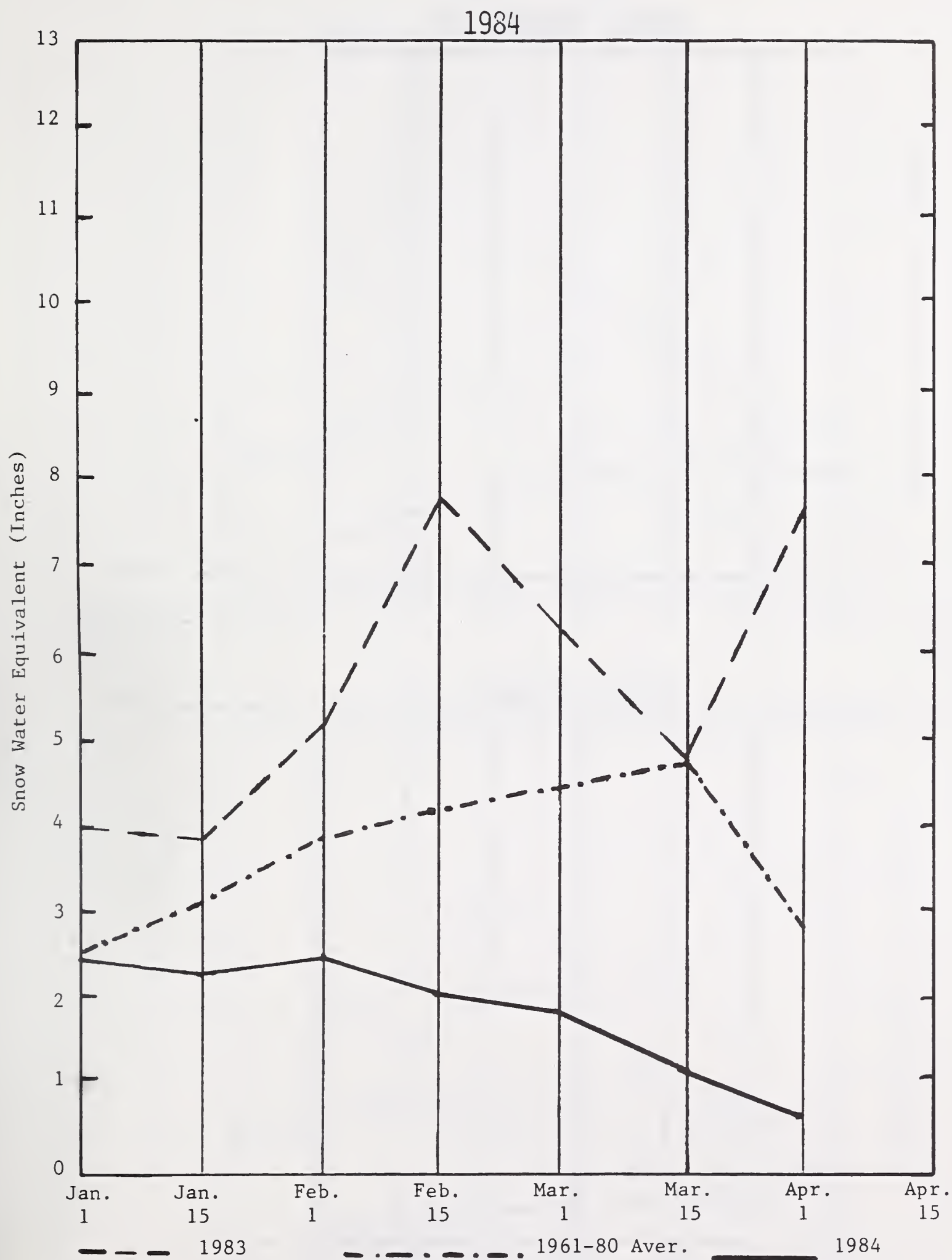
SUMMARY of SNOW MEASUREMENTS (COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF:	
		Last Year	Average
<u>ABOUT MARCH 15, 1984</u>			
Gila	9	24	42
Salt	8	24	31
Verde	10	11	14
Little Colorado	4	27	32
<u>ABOUT APRIL 1, 1984</u>			
Gila	9	15	39
Salt	8	7	18
Verde	10	4	10
Little Colorado	4	15	30

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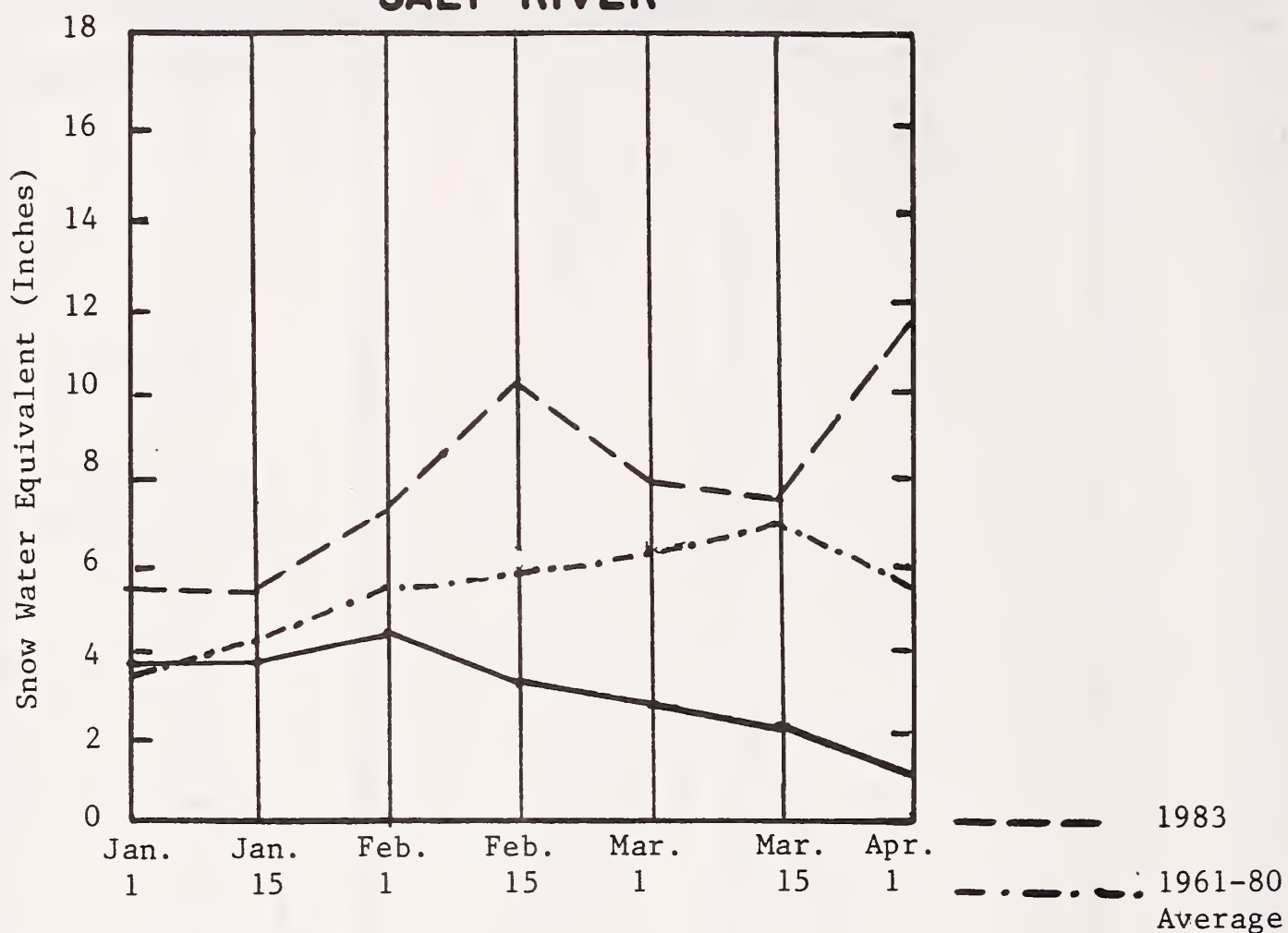
ARIZONA

AVERAGE SNOW COVER

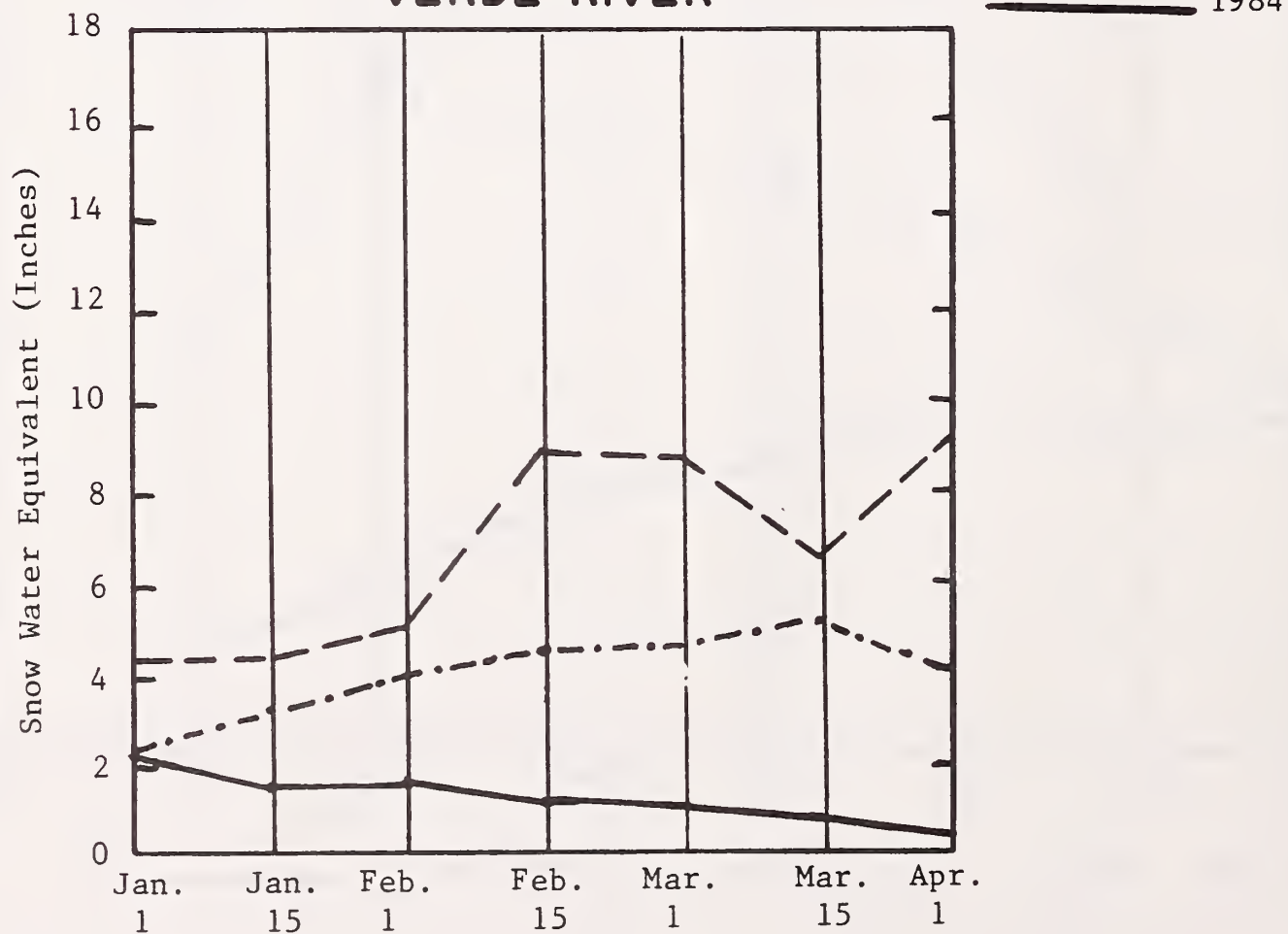


WATERSHED SNOW COVER

1984 SALT RIVER



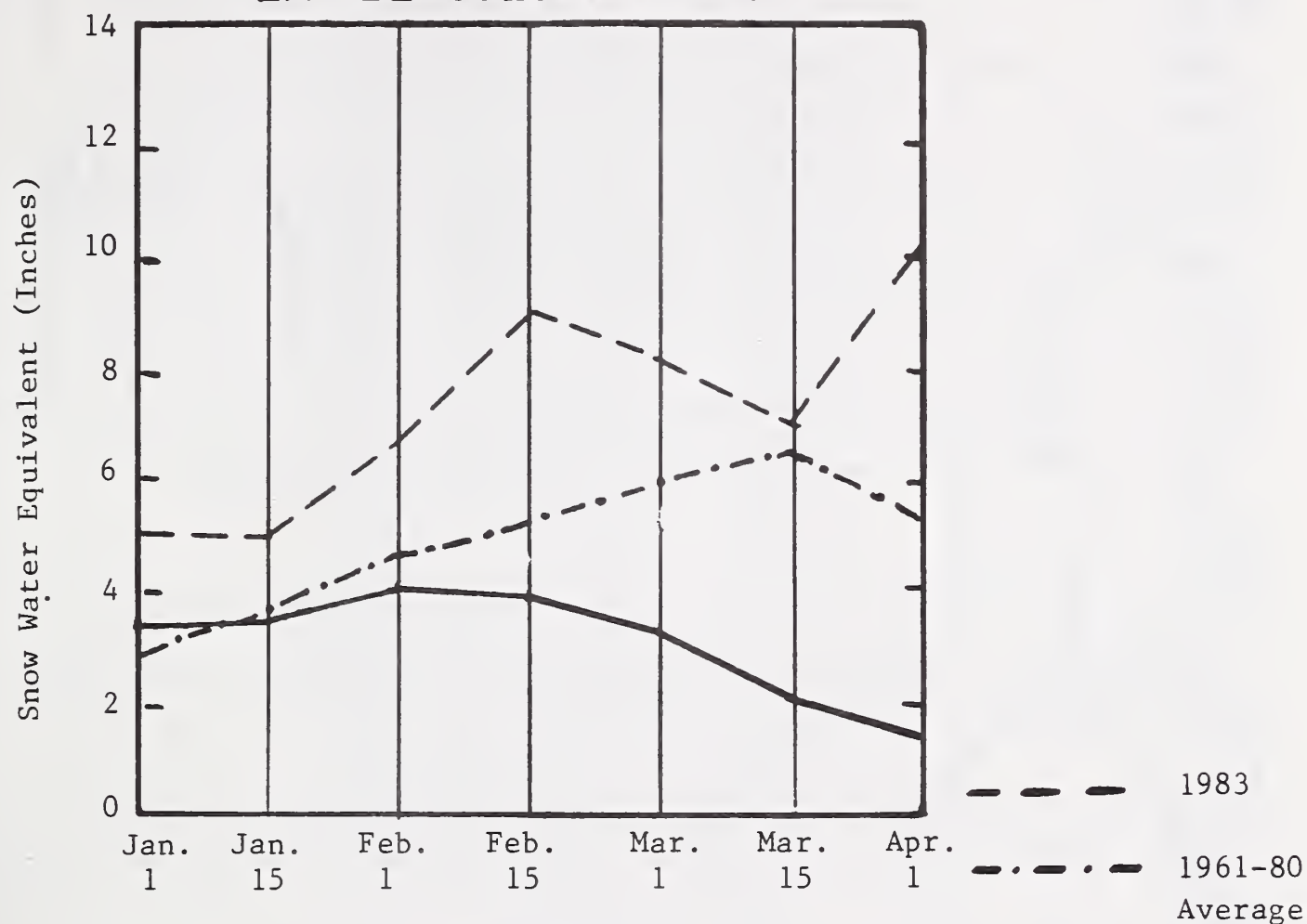
VERDE RIVER



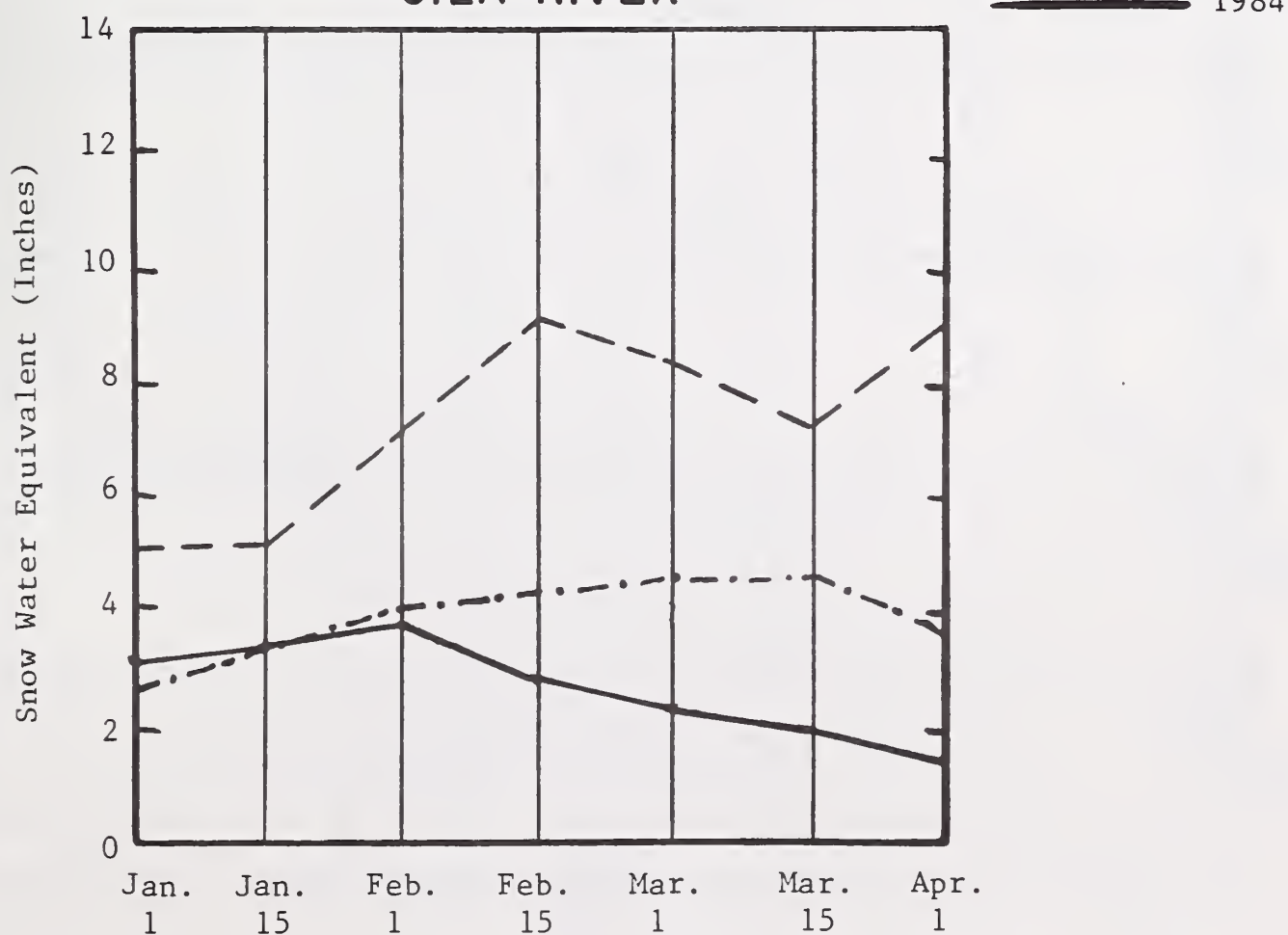
WATERSHED SNOW COVER

1984

LITTLE COLORADO RIVER

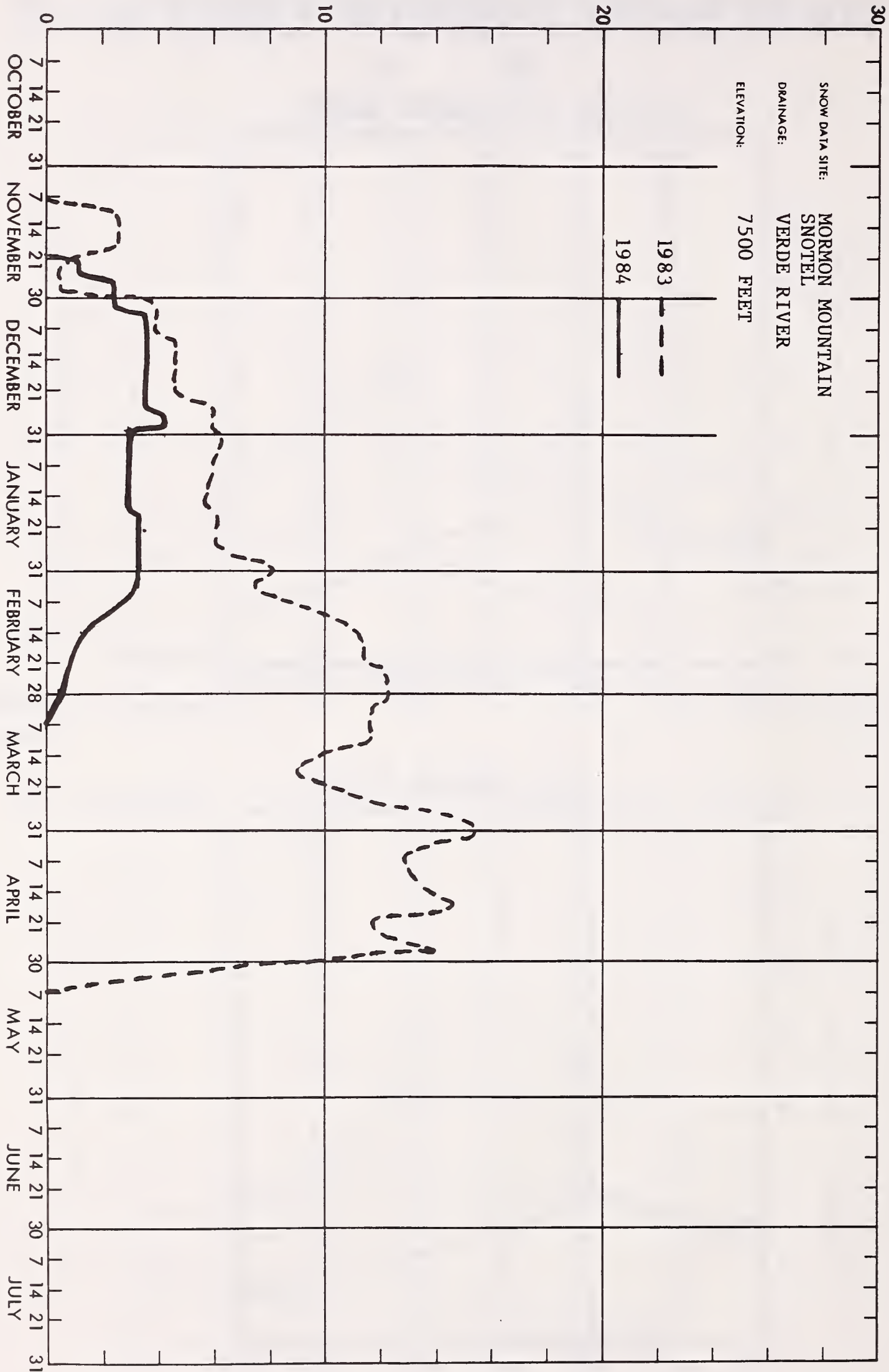


GILA RIVER

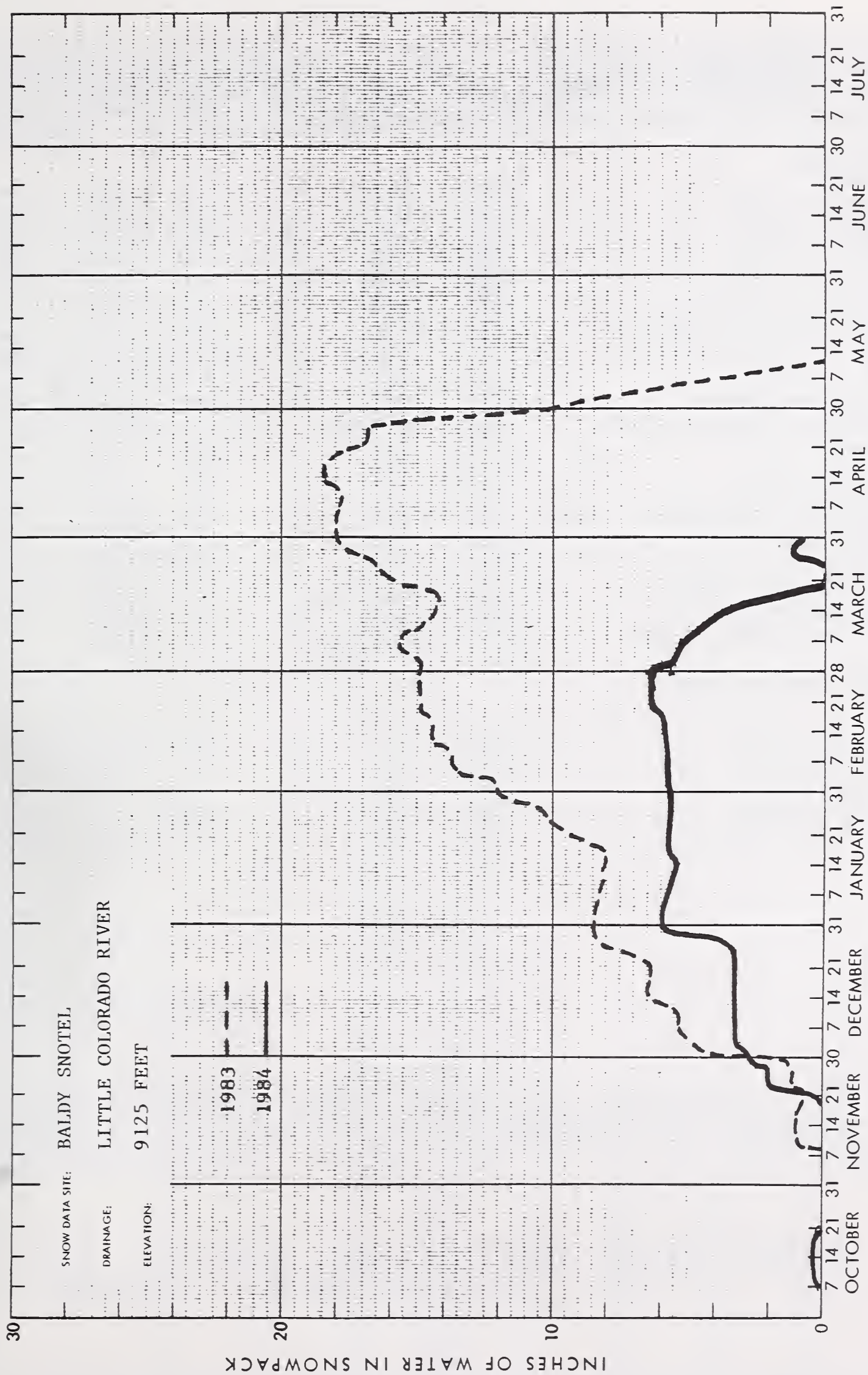


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INCHES OF WATER IN SNOWPACK



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SNOW ABOUT APRIL 1, 1984

DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR			PAST RECORD	
		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Elevation				Last Year	Average †
SALT RIVER						
Baldy *	9220	3/28	11	1.5	16.8	7.7
BALDY SNOTEL	9220	3/31	--	0.9	17.9	8.3**
Beaver Head	8000	3/30	0	0.0	6.4	1.9
Canyon Creek	7500	3/28	0	0.0	4.8	3.2
Canyon Point	7600	3/28	0	0.0	7.0	4.1**
Coronado Trail	8400	3/30	0	0.0	6.1	1.3
CORONADO TRAIL SNOTEL	8400	3/31	--	0.0	4.2	0.7**
Forest Dale Alternate	6580	3/30	0	0.0	---	0.2
Ft. Apache	9160	3/28	18	3.8	15.8	7.7
Hannagan Meadows	9090	3/30	7	1.9	24.8	9.8**
HANNAGAN MEADOWS SNOTEL	8960	No Report			25.8	9.8E
Heber	7640	3/28	0	0.0	5.4	3.4
HEBER SNOTEL	7640	3/31	--	0.0	4.6	3.8**
Maverick Fork	9050	3/28	8	1.1	22.2	9.7
MAVERICK FORK SNOTEL	9200	3/31	--	1.9	21.1	9.5**
Nutriosos *	8500	3/30	0	0.0	2.3	0.9
Promontory Butte	7900	3/28	4	1.3	28.5	14.9**
PROMONTORY SNOTEL	7900	No Report			33.2	16.4**
Workman Creek	6900	3/30	0	0.0	13.7	4.1
WORKMAN CREEK SNOTEL	6900	No Report			17.1	4.1**
LOWER COLORADO RIVER						
Bright Angel	8400	3/31	14	4.8	21.1	---
Chalender *	7100	3/31	T	0.1	1.6	2.1
Fort Valley	7350	3/30	0	0.0	2.7	1.7
Grand Canyon	7500	3/30	4	0.3	2.6	1.0
Williams Ski Run	7720	3/30	4	1.5	16.2	10.5**
† 1961-80 20-year period. (*) Adjacent drainage. (**) 1961-80 Adjusted Average. (A) Aerial observation: water content estimated. Snotel data is preliminary. E = Estimate.						

ABOUT APRIL 1, 1984

SNOW		ABOUT APRIL 1, 1984		THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)			
NAME	Elevation				Last Year	Average †		
<u>GILA RIVER</u>								
Beaver Head	8000	3/30	0	0.0	6.4	1.9		
Coronado Trail	8400	3/30	0	0.0	6.1	1.3		
CORONADO TRAIL SNOTEL	8400	3/31	-	0.0	4.2	0.7**		
Emory Pass #2 *	7800	3/29	0	0.0	1.4	0.3**		
Frisco Divide	8000	3/30	0	0.0	3.0	0.9		
FRISCO DIVIDE SNOTEL	8000	3/31	0	0.0	0.0	0.8**		
Hannagan Meadows *	9090	3/30	7	1.9	24.8	9.8**		
HANNAGAN MEADOWS SNOTEL	8960	No Report			25.8	9.8E		
Hummingbird (A)	10550	3/31	14	5.0	32.6	17.0**		
LOOKOUT MOUNTAIN SNOTEL	8150	No Report			0.0	---		
McKnight Cabin * (A)	9300	3/29	1	0.4	12.7	3.1**		
Mogollon	7000	Not Scheduled			---	0.1		
Nutrioso *	8500	3/31	0	0.0	2.3	0.9		
Redstone Trail	8600	Not Scheduled			---	7.3		
SIGNAL PEAK SNOTEL	8360	3/31	-	0.8	---	---		
Silver Creek Divide	9070	Not Scheduled			---	11.2**		
SILVER CREEK SNOTEL	9070	3/31	-	7.2	24.8	11.2**		
State Line	8000	3/30	0	0.0	5.3	1.0		
Whitewater (A)	10750	3/31	37	11.8	41.6	22.8**		
<u>VERDE RIVER</u>								
Baker Butte	7330	3/28	0	0.0	14.8	5.9**		
BAKER BUTTE SNOTEL	7330	3/31	-	0.0	16.5	6.1**		
Baker Butte #2	7700	3/28	5	1.8	28.6	14.0**		
Chalender *	7100	3/31	T	0.1	1.6	2.1		
Copper Basin Divide	6720	3/28	0	0.0	0.8	0.8**		
Fort Valley	7350	3/30	0	0.0	2.7	1.7		
FRY SNOTEL	7200	3/31	-	0.0	9.2	6.2**		
Gaddes Canyon	7600	3/30	0	0.0	16.3	5.7		
Happy Jack	7630	3/30	0	0.0	9.6	3.1		
Mingus Mountain	7100	3/30	0	0.0	1.3	0.6		
Mormon Lake *	7350	3/29	0	0.0	8.8	3.3		
Mormon Mountain	7500	3/29	0	0.0	14.9	5.5		
MORMON MOUNTAIN SNOTEL	7500	3/31	0	0.0	14.2	8.3		
Mormon Mtn. Summit #2	8470	3/29	12	5.0	33.0	---		
Newman Park	6750	3/29	0	0.0	3.7	1.3**		
Snow Bowl #1 Alternate	9920	3/30	15	4.5	22.9	13.2		
Snow Bowl #2	11000	3/30	40	10.9	33.2	21.3**		
SUGAR LOAF SNOTEL	6120	No Report			0.0	---		
White Horse Lake Jct.	7180	3/30	0	0.0	5.6	2.6**		
WHITE HORSE LAKE SNOTEL	7180	3/31	0	0.0	9.5	4.0**		
† 1961-80 20-year period. (*) Adjacent drainage. (**) 1961-80 Adjusted Average. (A) Aerial observation: water content estimated. Snotel data is preliminary. E = Estimate or correlation								
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SNOW ABOUT APRIL 1, 1984

SNOW ABOUT APRIL 1, 1984		THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Elevation				Last Year	Average †
<u>LITTLE COLORADO RIVER</u>						
Baldy	9220	3/28	11	1.5	16.8	7.7
BALDY SNOTEL	9220	3/31	--	0.9	17.9	8.3**
Canyon Creek	7500	3/28	0	0.0	4.8	3.2
Canyon Point	7600	3/28	0	0.0	7.0	4.1**
Cheese Springs	8600	3/28	8	1.1	7.4	5.4**
Forest Dale Alternate	6580	3/30	0	0.0	---	0.2
Ft. Apache	9160	3/28	18	3.8	15.8	7.7
Fort Valley	7350	3/30	0	0.0	2.7	1.7
Happy Jack	7630	3/30	0	0.0	9.6	3.1
Heber	7640	3/28	0	0.0	5.4	3.4
HEBER SNOTEL	7640	3/31	-	0.0	4.6	3.8**
Lake Mary	6970	3/29	0	0.0	3.4	0.2**
Mormon Lake	7350	3/29	0	0.0	8.8	3.3
Mormon Mountain	7500	3/29	0	0.0	14.9	5.5
MORMON MOUNTAIN SNOTEL	7500	3/31	-	0.0	14.2	8.3
Mormon Mtn. Summit #2	8470	3/29	12	5.0	33.0	---
Nutriosio *	8500	3/30	0	0.0	2.3	0.9
Promontory Butte	7900	3/28	4	1.3	28.5	14.9**
PROMONTORY SNOTEL	7900	No Report			33.2	16.4**
Snow Bowl #1 Alternate	9920	3/30	15	4.5	22.9	13.2
Snow Bowl #2	11000	3/30	40	10.9	33.2	21.3**

† 1961-80 20-year average. (*) Adjacent drainage. (**) 1961-80 Adjusted Average. (A) Aerial observation: water content estimated. Snotel data is preliminary.

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SNOW ABOUT MARCH 15, 1984

SNOW ABOUT MARCH 15, 1984		THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Elevation				Last Year	Average †
<u>SALT RIVER</u>						
Baldy*	9220	3/13	10	3.1	11.5	8.7
BALDY SNOTEL	9220	3/15	--	3.0	14.1	9.3**
Beaver Head	8000	3/14	0	0.0	5.5	2.9
Canyon Creek	7500	3/14	0	0.0	3.1	4.5
Canyon Point	7600	3/14	0	0.0	4.5	6.0**
Coronado Trail	8400	3/14	0	0.0	5.2	2.8
CORONADO TRAIL SNOTEL	8400	3/15	--	0.0	3.9	2.4**
Forest Dale Alternate	6580	3/14	0	0.0	---	0.4
Ft. Apache	9160	3/13	14	4.0	11.9	8.8
Hannagan Meadows	9090	3/14	16	6.1	18.3	10.6**
HANNAGAN MEADOWS SNOTEL	8960	3/15	--	7.5	21.5	10.6E
Heber	7640	3/14	0	0.0	2.8	4.9
HEBER SNOTEL	7640	3/15	--	0.0	2.6	5.5**
Maverick Fork	9050	Not Scheduled			12.5	10.9
MAVERICK FORK SNOTEL	9200	3/15	--	4.1	17.2	10.9**
Nutriosso *	8500	3/14	0	0.0	1.5	1.7
Promontory Butte	7900	No survey			21.4	16.5**
PROMONTORY SNOTEL	7900	3/15	--	8.7	27.8	17.4**
Workman Creek	6900	3/14	0	0.0	6.9	6.1
WORKMAN CREEK SNOTEL	6900	No Report			11.9	6.2**
<u>LOWER COLORADO RIVER</u>						
Bright Angel	8400	3/14	18	6.1	15.5	---
Chalender *	7100	3/14	0	0.0	2.2	3.2
Fort Valley	7350	3/14	0	0.0	1.8	2.7
Grand Canyon	7500	3/14	0	0.0	1.8	1.8
Williams Ski Run	7720	3/14	9	2.9	14.3	10.6**
† 1961-80 20-year period. (*) Adjacent drainage. (**) 1961-80 Adjusted Average. (A) Aerial observation: water content estimated. Snotel data is preliminary. E = Estimate.						
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SNOW ABOUT MARCH 15, 1984

SNOW ABOUT MARCH 15, 1984		THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Elevation				Last Year	Average †
<u>GILA RIVER</u>						
Beaver Head	8000	3/14	0	0.0	5.5	2.9
Coronado Trail	8400	3/14	0	0.0	5.2	2.8
CORONADO TRAIL SNOTEL	8400	3/15	--	0.0	3.9	2.4**
Emory Pass #2	7800	3/7	2	0.6	1.6	0.6**
Frisco Divide	8000	3/15	0	0.0	2.7	2.0
FRISCO DIVIDE SNOTEL	8000	3/15	--	0.0	1.4	1.6**
Hannagan Meadows *	9090	3/14	16	6.1	18.3	10.6**
HANNAGAN MEADOWS SNOTEL	8960	3/15	--	7.5	21.5	10.6E
Hummingbird (A)	10550	Not Scheduled			---	18.5*
LOOKOUT MOUNTAIN SNOTEL	8150	3/15	--	0.0	0.0	---
McKnight Cabin * (A)	9300	Not Scheduled			---	3.8**
Mogollon	7000	3/15	0	0.0	---	0.5
Nutriosio	8500	3/14	0	0.0	1.5	1.7
Redstone Trail	8600	3/15	10	3.9	---	7.8
SIGNAL PEAK SNOTEL	8360	3/15	--	1.4	---	---
Silver Creek Divide	9070	3/15	22	7.2	---	11.6**
SILVER CREEK SNOTEL	9070	3/15	--	8.8	19.7	11.6**
State Line	8000	3/15	0	0.0	4.8	2.2
Whitewater (A)	10750	Not Scheduled			---	19.9**
<u>VERDE RIVER</u>						
Baker Butte	7330	3/14	0	0.0	10.8	8.0**
BAKER BUTTE SNOTEL	7330	3/15	--	0.0	13.3	7.8**
Baker Butte #2	7700	3/14	13	4.8	23.1	15.8**
Chalender *	7100	3/14	0	0.0	2.2	3.2
Copper Basin Divide	6720	3/14	0	0.0	0.0	1.5**
Fort Valley	7350	3/14	0	0.0	1.8	2.7
FRY SNOTEL	7200	3/15	--	0.0	8.1	7.0**
Gaddes Canyon	7600	3/14	0	0.0	13.9	6.4
Happy Jack	7630	3/14	0	0.0	7.1	4.6
Mingus Mountain	7100	3/14	0	0.0	0.0	0.7
Mormon Lake *	7350	3/14	0	0.0	3.6	5.0
Mormon Mountain	7500	3/14	0	0.0	8.8	7.0
MORMON MOUNTAIN SNOTEL	7500	3/15	--	0.0	9.3	8.2
Mormon Mtn. Summit #2	8470	Not Scheduled			---	---
Newman Park	6750	3/14	0	0.0	0.0	2.1**
Snow Bowl #1 Alternate	9920	3/11	20	6.7	17.9	12.1
Snow Bowl #2	11000	3/11	35	10.5	23.9	19.6**
SUGAR LOAF SNOTEL	6120	3/15	--	0.0	0.0	---
White Horse Lake Jct.	7180	3/14	0	0.0	2.6	4.3**
WHITE HORSE LAKE SNOTEL	7180	3/15	--	0.0	8.9	5.8**

† 1961-80 20-year period. (*) Adjacent drainage. (**) 1961-80 Adjusted Average. (A) Aerial observation: water content estimated. Snotel data is preliminary. E = Estimate.

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SNOW ABOUT MARCH 15, 1984

SNOW		ABOUT MARCH 15, 1984		THIS YEAR			PAST RECORD	
DRAINAGE BASIN and or SNOW COURSE		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)			
NAME	Elevation				Last Year	Average †		
LITTLE COLORADO RIVER								
Baldy	9220	3/13	10	3.1	11.5	8.7		
BALDY SNOTEL	9220	3/15	--	3.0	14.1	9.3**		
Canyon Creek	7500	3/14	0	0.0	3.1	4.5		
Canyon Point	7600	3/14	0	0.0	4.5	6.0**		
Cheese Springs	8600	3/13	6	1.4	6.3	7.1**		
Forest Dale Alternate	6580	3/14	0	0.0	---	0.4		
Ft. Apache	9160	3/13	14	4.0	11.9	8.8		
Fort Valley	7350	3/14	0	0.0	1.8	2.7		
Happy Jack	7630	3/14	0	0.0	7.1	4.6		
Heber	7640	3/14	0	0.0	2.8	4.9		
HEBER SNOTEL	7640	3/15	--	0.0	2.6	5.5		
Lake Mary	6970	3/14	0	0.0	0.2	2.7**		
Mormon Lake	7350	3/14	0	0.0	3.6	5.0		
Mormon Mountain	7500	3/14	0	0.0	8.8	7.0		
MORMON MOUNTAIN SNOTEL	7500	3/15	--	0.0	9.3	8.2		
Mormon Mtn. Summit #2	8470	Not Scheduled			---	---		
Nutriosio *	8500	3/14	0	0.0	1.5	1.7		
Promontory Butte	7900	No Survey			21.4	16.5**		
PROMONTORY SNOTEL	7900	3/15	--	8.7	27.8			
Snow Bowl #1 Alternate	9920	3/11	20	6.7	17.9	12.1		
Snow Bowl #2	11000	3/11	35	10.5	23.9	19.6**		
+ 1961-80 20-year period. (*) Adjacent drainage. (**) 1961-80 Adjusted Average. (A) Aerial observation: water content estimated. Snotel data is preliminary.								
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PRECIPITATION (Inches) ABOUT APRIL 1, 1984 (SNOTEL SITES)

DRAINAGE BASIN and PRECIPITATION GAGE LOCATION	ELEVATION	CURRENT INFORMATION			FROM APPROX. NOV. 1 TO DATE		
		Date of Reading	Month's Precipitation	Average †	This Year	Average †	Percent of Average
<u>GILA RIVER</u>							
Coronado Trail	8400	3/31	1.0	2.1	6.0	9.6	62
Hannagan Meadows	8960	3/31	1.1	2.7	11.5	14.6	79
Frisco Divide	8000	3/31	0.4	1.8	4.7	8.5	55
Silver Creek Divide	9000	3/31	0.7	---	11.2	---	---
Lookout Mountain	8150	No Report		---	---	---	---
Signal Peak	8360	3/31	1.3	---	10.2	---	---
<u>SALT RIVER</u>							
Promontory Butte	7930	3/31	0.2	6.0	13.9	26.6	52
Heber	7640	3/31	1.3	4.0	11.1	16.9	66
Hannagan Meadows	8960	3/31	1.1	2.7	11.5	14.6	79
Maverick Fork	9050	3/31	2.1	2.9	10.0	14.7	68
Coronado Trail	8400	3/31	1.0	2.1	6.0	9.6	62
Workman Creek	6900	No Report		4.5	--	20.8	--
<u>VERDE RIVER</u>							
White Horse Lake Jct.	7180	3/31	0.5	4.2	7.7	16.7	46
Fry	7200	3/31	0.8	4.3	7.7	18.2	42
Mormon Mountain	7500	3/31	0.8	4.4	10.2	19.7	57
Sugar Loaf	6120	No Report		---	---	---	---
Baker Butte	7300	3/31	0.4	4.5	11.0	19.8	56
<u>LITTLE COLORADO</u>							
Baldy	9125	3/31	1.5	2.9	9.0	13.0	69
Heber	7640	3/31	1.3	4.0	11.1	16.9	66
Promontory Butte	7930	3/31	0.2	6.0	13.9	26.6	52
<i>Snotel data preliminary</i>							
-18-							

SNOW SURVEYORS - 1984 SEASON

SOIL CONSERVATION SERVICE

Phoenix State Office:
Portland, Oregon WNTC:
Prescott Field Office:
Flagstaff Field Office:

Springerville Field Office:
Silver City, New Mexico:

Ron Jones
T. Perkins
M. Jalving, R. Carmichael
J. Middleton, S. Cinnamon, B. Gordon,
J. Alam
D. Thompson, J. Williams
H. Bray, G. Adkins

U.S. FOREST SERVICE

Kaibab National Forest

Williams Ranger Station:
Chalender R.S.:
Supervisor's Office:

R. Jorgensen
B. Richardson, J. Dawson
Kramer

Coconino National Forest

Flagstaff R.S.:
Happy Jack R.S.:

J. Holden
R. Allred, M. Poleyquira, Jenner, Hink,
Quanimptewa

Apache-Sitgreaves Nat'l. Forest

Alpine R.S.:

Davis, Chavez, Lee, Romish, Dyson

Gila National Forest

Luna R.S., New Mexico:

G. Gibbons, P. Morrison

ROCKY MOUNTAIN FOREST AND RANGE EXPERIMENT STATION

Fort Valley
Tempe

NATIONAL PARK SERVICE

Grand Canyon National Park

G. Whitmer, Maciha, Van Sice,
Thede, Cunningham

CONTRACT

Ground surveys:
Aerial surveys, New Mexico:

P. Lidbeck
B. Alexander, Miller

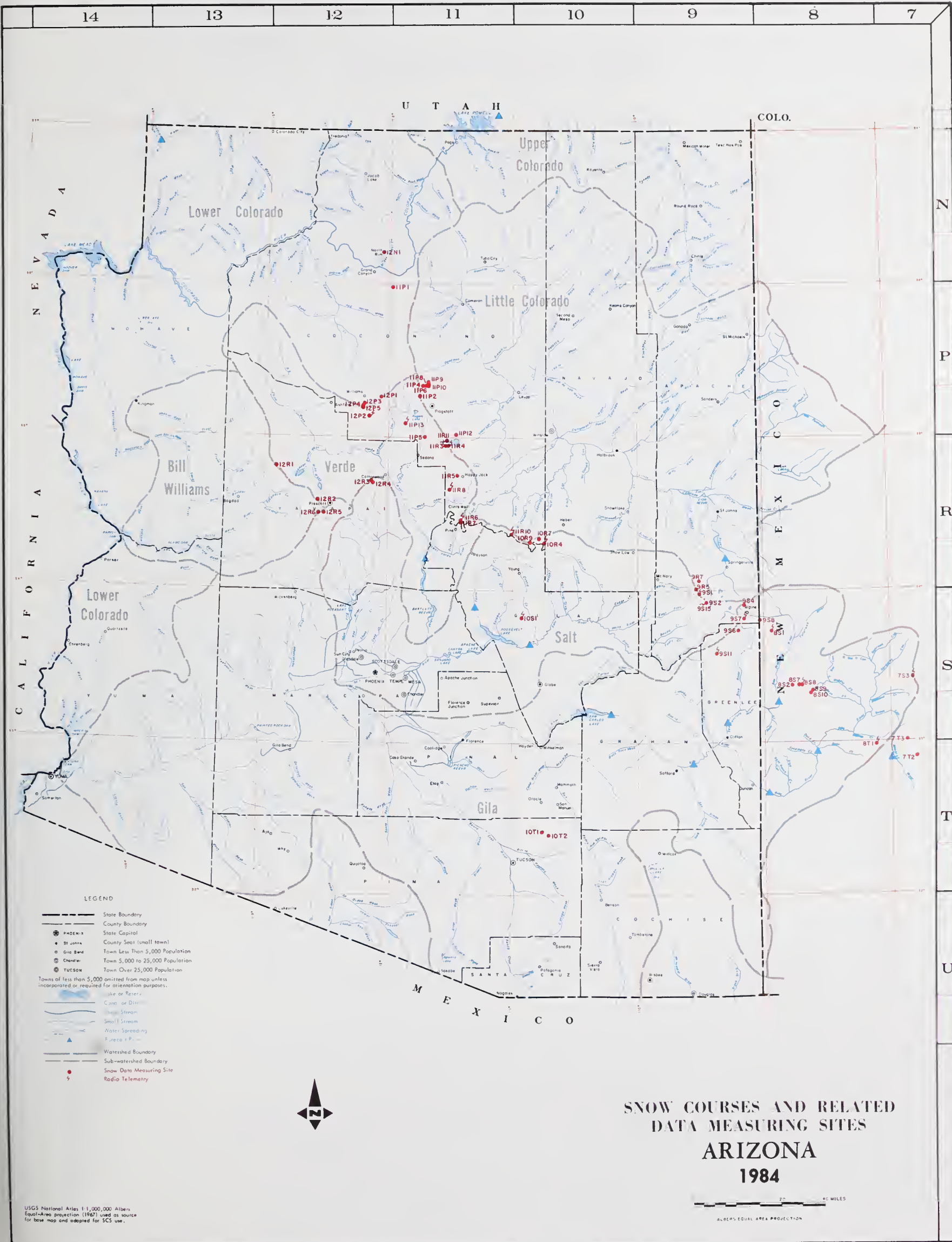
CITY OF FLAGSTAFF

Ground surveys:

D. Perry

THEORY OF THE EARTH

1. The Earth is a sphere.	
2. The Earth is composed of different layers.	
3. The layers of the Earth are the crust, the mantle, and the core.	
4. The crust is the outermost layer of the Earth.	
5. The mantle is the layer below the crust.	
6. The core is the innermost layer of the Earth.	
7. The crust is divided into continents and oceans.	
8. The mantle is divided into the upper mantle and the lower mantle.	
9. The core is divided into the outer core and the inner core.	
10. The outer core is liquid, while the inner core is solid.	
11. The Earth's magnetic field is generated by the outer core.	
12. The Earth's rotation causes the day and night cycle.	
13. The Earth's tilt causes the seasons.	
14. The Earth's atmosphere is composed of gases.	
15. The atmosphere protects the Earth from harmful radiation.	
16. The atmosphere is responsible for the greenhouse effect.	
17. The Earth's water cycle is a continuous process.	
18. The water cycle involves evaporation, condensation, and precipitation.	
19. The Earth's climate is determined by various factors.	
20. The Earth's climate is changing due to human activities.	



14 13 12 11 10 9 8 7

U T A H

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C A L I F O R N I A

M E X I C O

LEGEND

- State Boundary
- County Boundary
- State Capital
- County Seat (small town)
- Town Less Than 5,000 Population
- Town 5,000 to 25,000 Population
- Town Over 25,000 Population
- Towns of less than 5,000 omitted from map unless incorporated or required for orientation purposes.
- Canal or Diversion
- Stream
- Small Stream
- Water Spreading
- Furrow
- Watershed Boundary
- Sub-watershed Boundary
- Snow Data Measuring Site
- Radio Telemetry



SNOW COURSES AND RELATED
DATA MEASURING SITES
ARIZONA
1984

0 20 40 MILES
ALBERTA EQUAL AREA PROJECTION

USGS National Atlas 1:1,000,000. Albers Equal-Area projection (1962) used as source for base map and adopted for SCS use.

INDEX TO SNOW COURSES

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.	DRAINAGE	OBSERVER	RECORD BEGAN
11P10A	Agassiz	32	23N	7E	11200	Little Colorado	SCS-CF*	1968
11R6PSPRT	Baker Butte	4	12N	9E	7300	Verde	SCS	1966
11R7	Baker Butte #2	9	12N	9E	7700	Verde	SCS	1971
9S1APSPRT	Baldy	28	7N	27E	9125	Little Colorado	SCS	1950
9S15	Baldy #2	12	6N	26E	9750	Little Colorado	SCS	1963
10T1	Bear Wallow	6	12S	16E	8100	Gila	FS	1948
9S6	Beaver Head	13	4N	30E	8000	San Francisco	FS	1938
12P5	Bill William Intermediate	17	21N	2E	8550	Cataract	FS	1967
12P4	Bill Williams Summit	17	21N	2E	8950	Verde	FS	1967
12N1	Bright Angel	34	33N	3E	8400	Bright Angel Creek	NPS	1947
12R1	Camp Wood	3	16N	6W	5700	Verde	FS	1946
10R7	Canyon Creek #2	18	11N	15E	7500	Little Colorado	SCS	1958
10R9P	Canyon Point	28	11N	14E	7600	Salt	SCS	1967
12P1	Chalender	27	22N	3E	7100	Verde	FS	1947
9R7	Cheese Springs	28	8N	27E	8600	Little Colorado	SCS	1969
12R6P	Copper Basin Divide	23	13N	3W	6720	Verde	SCS	1963
9S7PSPRT	Coronado Trail	26	5N	30E	8000	San Francisco	FS	1938
7T2	Emory Pass #2	16	16S	9W**	7800	Mimbres	SCS	1967
11P13PSPRT	Fry	35	20N	5E	7220	Verde	SCS	1978
9R5	Ft. Apache	18	7N	27E	9160	Little Colorado	SCS	1951
11P2P	Ft. Valley	22	22N	6E	7350	Little Colorado	FS	1947
8S1PSPRT	Frisco Divide	31	6S	20W**	8000	San Francisco	FS	1938
12R4	Gaddes Canyon	11	15N	2E	7600	Verde	SCS	1954
11P1	Grand Canyon	21	30N	4E	7500	Hance Creek	NPS	1947
9S11PSPRT	Hannagan Meadows	19	3N	29E	9090	San Francisco	FS	1964
11R5P	Happy Jack	30	16N	9E	7630	Verde	FS	1951
10R4PSPRT	Heber	28	11N	15E	7600	Little Colorado	SCS	1950
8S9A	Hummingbird	19	11S	17W**	10550	Gila	SCS	1964
11P9P	Inner Basin #1	28	23N	7E	10000	Little Colorado	SCS-CF*	1967
11P8P	Inner Basin #2	28	23N	7E	9750	Little Colorado	SCS	1967
12R2	Iron Springs	22	14N	3W	6200	Little Colorado	SCS	1946
11P12	Lake Mary	21	19N	9E	6930	Little Colorado	SCS	1975
7S3PSPRT	Lookout Mountain	1	10S	10W	8500	Gila	SCS	1978
9S2APSPRT	Maverick Fork	13	6N	27E	9150	Salt	SCS	1950
7T3A	McKnight Cabin	10	15S	10W**	9300	Mimbres	SCS	1967
12R3	Mingus Mountain	3	15N	2E	7100	Verde	SCS	1947
8S2	Mogollon	2	11S	19W**	7000	San Francisco	SCS	1953
11R4	Mormon Lake	13	18N	8E	7350	Little Colorado	SCS	1947
11R3APSPRT	Mormon Mountain	14	18N	8E	7500	Verde	SCS	1950
11R11	Mormon Mountain Summit #2	2	18N	8E	8470	Little Colorado	SCS	1975
11P5	Newman Park	25	19N	6E	6750	Verde	SCS	1963
9S4	Nutrioso	23	6N	30E	8500	San Francisco	FS	1938
11R10PSPRT	Promontory Butte	5	11N	13E	7930	Little Colorado	SCS	1973
8S7	Redstone Trail	5	11S	18W**	8600	San Francisco	SCS	1961
10T2	Rose Canyon	15	12S	16E	7300	Gila	FS	1948
8T1PSPRT	Signal Peak	13	16S	13W	8360	Gila	SCS	1977
8S8PSPRT	Silver Creek Divide	4	11S	18W**	9000	San Francisco	SCS	1964
11P4	Snow Bowl #1	36	23N	6E	10260	Verde	FS	1961
11P6	Snow Bowl #2	31	23N	7E	11000	Verde	FS	1965
9S8	State Line	6	6S	21W**	8000	San Francisco	FS	1938
11R8PSPRT	Sugarloaf	8	8E	14N	6120	Verde	SCS	1978
12P2PSPRT	White Horse Lake Jct.	2	20N	2E	7180	Verde	FS	1967
12R5	White Spar	19	13N	2W	6000	Verde	SCS	1963
8S10A	Whitewater	19	11S	17W**	10750	Gila	SCS	1964
12P3	Williams Ski Run	9	21N	2E	7720	Cataract	FS	1967
10S1PSPRT	Workman Creek	33	6N	14E	6900	Salt	FS	1952

A Aerial Snow Depth Marker
P Precipitation Storage Gage
R Radio Telemetry (SNOTEL)

SP Snow Pressure Pillow
T Temperature
** NM Principal Meridian
* City of Flagstaff

The Following Organizations Cooperate in the Arizona Snow Survey Work

FEDERAL

Department of Agriculture
 Soil Conservation Service
 Forest Service
 Apache-Sitgreaves Forest
 Coconino Forest
 Coronado Forest
 Gila Forest
 Kaibab Forest
 Prescott Forest
 Rocky Mountain Forest and Range
 Experiment Station
 Tonto Forest
Department of Commerce
 NOAA, National Weather Service
Department of Interior
 Bureau of Reclamation
 Region III
 Geological Survey
 Arizona District
 New Mexico District
 Bureau of Indian Affairs
 San Carlos Irrigation Project
 National Park Service
 Grand Canyon National Park
Gila Water Commissioner
 Safford, Arizona

STATE

Arizona Game and Fish Department

Arizona State Parks Board

Arizona Department of Water Resources

University of Arizona
 Arizona Agricultural Experiment Station
 Water Resource Research Center
 Department of Watershed Management

Arizona State Climatologist

MUNICIPAL

City of Flagstaff

IRRIGATION PROJECTS

Salt River Valley Water Users' Association
 Phoenix, Arizona
San Carlos Irrigation and Drainage District
 Coolidge, Arizona
Maricopa County Municipal Water Conservation District
 Peoria, Arizona

PRIVATE

Southwest Forest Industries, Inc.
 Phoenix, Arizona

Other organizations and individuals furnish valuable information for the snow survey reports. Their cooperation is gratefully acknowledged.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
FEDERAL BUILDING ROOM 3008
230 NORTH FIRST AVENUE
PHOENIX, ARIZONA 85025

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*“The Conservation of Water begins
with the Snow Survey”*